

CLAIMS

We Claim:

1. A multiplex PNA-FISH comprising:

- 5 a) contacting a sample with two or more fluorescently labeled independently detectable PNA probes, wherein each of the two or more fluorescently labeled independently detectable PNA probes comprise a probing nucleobase sequence that hybridizes to a target sequence of one of the two or more organisms of interest; and
- 10 b) detecting, identify or quantitating hybridization of the probing nucleobase sequence of the PNA probe to the target sequence of the organism and correlating the result for each of the two or more fluorescently labeled independently detectable PNA probes with the presence, absence or number of the two or more organisms of interest in the sample.

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